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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,446	05/09/2001	Kurt C. Chang	CHKUS	5136

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EXAMINER	
PATEL, SHEFALI D	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 01/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/852,446	CHANG, KURT C.	
	Examiner	Art Unit	
	Shefali D Patel	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-5,9-16,21 and 30-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6-8,17-19 and 22-29* is/are allowed.

6)☒ Claim(s) *2-5,9-16,21 and 30-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment was received on August 2, 2004 and is made of record.

2. Claims 1 and 20 have been cancelled.

Response to Arguments

3. The indicated allowability of claims 9-12 and 30-33 is withdrawn in view of the reconsideration of the reference(s) to Touzawa et al. (hereinafter, "Touzawa") (US 6,687,392). Rejections based on the reference(s) follow.

4. Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 9-14, 21, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crook (US 5,452,407) in view of Touzawa (US 6,687,392).

With regards to claim 9 Crook discloses a method for three-dimensional (3D) shape and size measurement of a 3D body surface (measurement data of a human femur 84 as seen in Fig. 5) comprising the steps of: providing a 3D scanner (CT scanner, scanning apparatus 40, col. 3 lines 19-20. CT scanner scans in 3D as disclosed at col. 1 lines 36-40); providing a processor (computer 44, col. 3 line 21); providing a 3D Computer Aided Design (CAD) system (CAD system 46, col. 3 line 21); scanning in three dimensions with the 3D scanner at least a portion of the 3D body surface (scanning with a scanner 40 a

part of at least a portion of a patient (having 3D body surface) undergoing surgery as disclosed at col. 3 lines 26-30); creating a data file representative of the 3D body surface (this image data is stored in a computer storage, col. 3 lines 32-35); processing the data file with the processor (the computer, processor, 44 processes the data file stored, col. 3 lines 38-46); importing the data file into the 3D CAD system (image data files is send to CAD system at col. 3 lines 36-38, 46-52); employing the 3D CAD system relative to the data file to define and record 3D measuring data relative to at least a portion of the 3D body surface (CAD data relative to the image data file defines and record the 3D measuring data of a 3D body surface at col. 3 lines 56-66); and employing the 3D CAD system to exploit the 3D measuring data (once the device is done rendering the 3D object using the system 48, the data is being send, given, (i.e., exploit) to a surgeon for further use at col. 4 lines 1-6)). NOTE: the process is clearly seen in Figure 3 at elements 40, 42, 44, 46, etc. in a given flow.

Crook does not expressly disclose determining the center point of each of at least some of the plurality of girth shapes comprising determining opposing extreme points of each girth shape in at least two perpendicular orientations, connecting the extreme points with lines comprising an X dimension line and a Y dimension line, and defining where the lines intersect to be the center point. Touzawa discloses this as seen in Figure 6 and at col. 6 lines 12-20 where the center point is where two lines PLj and CLj intersects perpendicularly where the opposing extreme points are P2j-1 and P2j+1. Crook and Touzawa are combinable because they are from the same field of endeavor, i.e., medical imaging. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Touzawa with Crook. The motivation for doing so is to obtain the parameters of the object in the image (such as distance from one point to the other) as disclosed in Touzawa at col. 6 lines 5-30, col. 8 lines 18-32, and col. 10 lines 51-67. Therefore, it would have been obvious to combine Touzawa with Crook to obtain the invention as specified in claim 9.

With regard to claim 10 Touzawa discloses defining a plurality of girth plane perimeter curve definition control points along a perimeter of the girth plane between the opposing extreme points of the girth shape (col. 9 lines 23-61 where the opposing extreme points are Pk,1 to Pk,4), determining a distance between each of the plurality of girth plane perimeter curve definition control points and the center point (determining the length defined by 'A' and 'B' as seen in Figure 15 and at col. 9 lines 33-44), and determining an angular orientation of a line between each of the plurality of girth plane perimeter curve definition control points and the center point whereby the girth shape can be recreated (defining the area at col. 10 lines 8-29).

With regard to claim 11 Touzawa discloses determining a relative location of a center point of a first girth shape relative to a center point of a second girth shape (see, two different center in Figures 6 and 7).

With regard to claim 12 Touzawa discloses determining the relative location of the center point of the first girth shape relative to the center point-of the second girth shape comprises determining a distance between the center points of the first and second girth shapes and determining an angular orientation of a line The method of claim 11 wherein the step of determining the connecting the first and second girth shapes whereby relative locations of the first and second girth shapes can be recreated (col. 5 lines 40 to col. 6 lines 1-11).

With regard to claim 13 Crook discloses a 3D body surface including defining a hip girth whereby the hip girth can be used as a reference plane (See, col. 5 lines 68 to col. 6 lines 1-2).

With regard to claim 14 Crook discloses adding 3D shape definition points to the 3D body surface for identifying and defining measurement guidelines and landmarks (this done by a processor and CAD with a help of a surgeon at col. 4 lines 26-48).

Claim 30 recites identical features as claim 9. Thus, arguments similar to that presented above for claim 9 is equally applicable to claim 30.

Claim 21 recites identical features as claim 14. Thus, arguments similar to that presented above for claim 14 is equally applicable to claim 21.

Claim 31 recites identical features as claim 10. Thus, arguments similar to that presented above for claim 10 is equally applicable to claim 31.

Claim 32 recites identical features as claim 11. Thus, arguments similar to that presented above for claim 11 is equally applicable to claim 32.

Claim 33 recites identical features as claim 12. Thus, arguments similar to that presented above for claim 12 is equally applicable to claim 33.

7. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crook (US 5,452,407) in view of Touzawa (US 6,687,392) as applied to claims 9 and 30 above, and further in view of Dimsdale (US 6,246,468).

With regard to claim 2 Crook discloses a method for 3D shape and size measurement of a 3D body surface as disclosed in claim 1 and the arguments are not repeated herein, but are incorporated by reference. Crook does not expressly disclose the processor comprising aligning captured 3D XYZ point cloud data sets, patching areas with missing 3D XYZ point cloud data, and filtering and deleting noisy data. Dimsdale discloses aligning captured 3D XYZ point cloud data sets, patching areas with missing 3D XYZ point cloud data (See, col. 8 lines 11-13, lines 65 to col. 9 lines 1-13), and filtering (col. 37 lines 25-27, 44-45, 48) and deleting noisy data (col. 25 lines 19-21). Crook, Touzawa and Dimsdale are combinable because they are from the same endeavor (i.e., creating 3D model of an object to measure certain feature about the object). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invention of Crook, Touzawa and Dimsdale. The suggestion/motivation for doing so would have been obvious because point could data is necessary for CAD system for having to indicate a location of a corresponding point on a surface of the object to create a model and filtering to reduce noise to have better data set for precise results as suggested by Dimsdale

at col. 2 lines 33-41. Therefore, it would have been obvious to combine Dimsdale with Crook and Touzawa to obtain the invention as specified in claim 2.

With regard to claim 3 Dimsdale discloses processing the data file with the processor further comprises merging the data to create a polygonal mesh of the 3D surface (mesh is created as seen at col. 25 lines 7-13).

8. Claims 4-5 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crook (US 5,452,407) in view of Touzawa (US 6,687,392) as applied to claims 9 and 30 above, and further in view of Croyle et al. (hereinafter, "Croyle") (US 5,530,652).

With regard to claim 4 Crook discloses a method for 3D shape and size measurement of a 3D body surface as disclosed in claim 1 and the arguments are not repeated herein, but are incorporated by reference. Crook does not expressly disclose the steps of creating a data file representative of the 3D body surface and processing the data file with the processor are being dependent in detail on fir requirements of a garment. Croyle discloses the steps of creating a data file representative of the 3D body surface and processing the data file with the processor are being dependent in detail on fir requirements of a garment (See, col. 3 lines 26-31). Crook, Touzawa and Croyle are combinable because they are from the same endeavor (i.e., creating 3D model of an object to measure certain feature about the object). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invention of Crook, Touzawa and Croyle. The suggestion/motivation for doing so would have been obvious because having a detail on fit requirements of a garment would help a user determine their correct size and ultimately make a choice on a garment without having to give measurements in person as suggested by Croyle at col. 1 lines 21-24; col. 2 lines 3-9. Therefore, it would have been obvious to combine Croyle with Crook and Touzawa to obtain the invention as specified in claim 4.

With regard to claim 5 Croyle discloses the fit requirements of the garment comprising a loose fit requirement (loose fit requirement measurement is taken by the rotating system as disclosed at col. 3 lines 26-47) and a tailored fit requirement (See, col. 1 lines 48-53).

Claim 15 recites identical features as claim 4. Thus, arguments similar to that presented above for claim 4 is equally applicable to claim 15.

With regard to claim 16 Croyle discloses creating reference points that are spaced from the 3D shape definition points on the 3D body surface, creating 3D curve lines using the reference points and forming 3D garment pattern pieces using the 3D curve lines as seen in Figures 2 and 5.

Allowable Subject Matter

9. Claims 17-19, 6-8, and 22-29 are allowed.

The reasons for allowance are disclosed in an Office Action mailed on May 6, 2004 and the reasons are not repeated herein, but are incorporated by reference.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jojic, et al., "Computer Modeling, Analysis, and Synthesis of Dressed Humans," IEEE. 1998/1999, pp. 1-3/378-388.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shefali D Patel
Examiner
Art Unit 2621

December 20, 2004

LEO BOUDREAU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600